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To collect word association norms, 100 educable mentally handicapped boys (chronological ages 11 to 16, mental ages 7 to 11.5) responded to 25 nouns from the Mein and O'Connor list of words most commonly used by retarded children. The subjects were individually tested by stimuli typed on cards. The responses of all 100 subjects to the 25 stimulus words were tabulated. Alphabetical listings are provided of the stimuli; following each stimulus are the responses and their corresponding frequencies; the number of subjects failing to respond is also indicated. (JD)

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ORAL WORD ASSOCIATION NORMS FOR EDUCABLE MENTALLY RETARDED CHILDREN[1]

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100 educable mentally retarded boys gave oral word-association responses to 25 words of the Mein and O'Connor (1960) list of words most commonly used by retarded children, The responses were tabulated to provide word-association norms for this subject population.

Several investigators (Brown & Berko, 1960; Erwin, 1961; Entwisle, Forsythe & Muuse, 1964; Wicklund, Palermo, & Jenkins, 1965; Semmel, Barritt, & Bennett, 1968) have employed word-association (W-A) norms in the study of children's language and language behavior in a variety of experimental contexts. A study of children's W-A's may lead to an understanding of language processing abilities of both normal and retarded children (Semmel, 1967). W-A studies have typically employed association norms based on the responses of normal children of various ages (e.g., Palermo & Jenkins, 1964; 1966). Relatively little normative data have been collected from retarded children (Gerjuoy & Gerjuoy, 1965; Horan, 1956).

The purpose of the present study was to collect extensive word-association norms from a population of educable mentally retarded (EMR) boys.

Method

Subjects. One hundred EMR boys from the population of Wayne County Child Development Center, Northville, Michigan, were randomly selected for the study. Ss ranged in CA from 11 to 16 years with MA's from 7.0 to 11.5 yrs.

Stimulus Words. The stimulus list was constructed of 25 high frequency noun stimuli randomly selected from the Mein and O'Connor (1960) list of words most commonly used by retarded children. The list of stimulus words is presented in Table 1.

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Insert Table 1 about here

Procedure. The Ss were individually tested on the 25 high-frequency noun W-A stimuli. Stimuli were typed on 5" x 8" unlined index cards. The 25 cards were randomized by hand-shuffling prior to presentation to the S. Each S was introduced to the W-A task as follows:

> We are going to play some word games today. Now, if you're ready, I'll tell you the rules for the game
>
> In this game, I will read you a word from each of these cards. The idea of the game is for you to say the first word you think of when I say the word to you. You should say just one word and not more than one.

Ss were presented two sample stimuli in order to test their understanding of the task.

Results

The responses of the 100 Ss to the 25 stimulus words were tabulated and are presented in full in the following pages. The stimuli are listed in alphabetical order, and following each stimulus are the responses and their corresponding frequencies. The last figure in each response distribution denoted by "No Response" indicates the number of Ss who failed to respond. To obtain transitional probabilities for any stimulus-response pair, divide the frequency (f) of the response by N = 100.

Footnote

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Table 1

Stimulus Words Used In Free Word-Association Task

apple	clock	fork	milk	tree
ball	coat	hand	money	pictures
balloon	cow	horse	mother	snow
bird	elephant	knife	toy	school
boat	flower	man	train	water

APPLE	f	BALL	f	BALLOON	f
eat	29	bat	19	air	16
tree	10	play	18	blow	16
orange	8	baseball	8	bust(ed)	8
pie	6	bounce	3	ball	7
red	5	catch	3	float	7
peach	5	rubber	3	string	7
core	3	throw	3	play	4
food	3	apple	2	fly	3
fruit	3	blue	2	red	3
ate	2	fall(ing)	2	airplane	2
good	2	Football	2	big	2
pear	2	game	2	circus	2
seed	2	hard	2	wind	2
ball	1	toy	2	baby	1
bite	1	air	1	bag	1
box	1	alley	1	basket	1
good	1	bell	1	box	1
jacks	1	bull	1	broom	1
little	1	cup	1	fun	1
nipple	1	dodge	1	high	1
plane	1	doll	1	have	1
rotten	1	foot	1	party	1
salt	1	glove	1	plastic	1
teeth	1	green	1	pop	1
tomato	1	guinea pig	1	pretty	1
worm	1	hall	1	man	1
		hit	1	rubber	1
no response	7	kill	1	toy	1
		net	1	wall	1
		orange	1		
		picked	1	no response	5
		saw	1		
		small	1		
		stable	1		
		superball	1		
		water	1		
		no response	7		

BIRD	f
fly	23
nest	16
tree	10
baby	4
feather	4
house	4
animal	3
beak	2
cat	2
eagle	2
plane	2
robin	2
bat	1
bee	1
big	1
blue	1
blue bird	1
blue jay	1
cage	1
egg	1
feet	1
geese	1
girl	1
nature	1
monkey	1
mother robin	1
pidgeon	1
saw	1
whistle	1
wings	1
woody woodpecker	1
no response	7

BOAT	f
sail(ing)	13
water	13
ride(s)	9
canoe	5
river	5
ship	5
fish(ing)	4
float(s)	4
motor	4
house	3
paddle	3
airplane	2
car	2
lake	2
shoe	2
bat	1
bathtub	1
beet	1
big	1
birds	1
boatride	1
broom	1
coat	1
fast	1
glasses	1
moat	1
ocean	1
new	1
people	1
racing	1
row	1
sea	1
skiing	1
steam	1
toy	1
no response	4

CLOCK	f
time	47
watch	12
tick	6
wall	4
hands	3
lock	3
bell	2
click	2
numbers	2
bird	1
circle	1
cluck	1
dial	1
fast	1
got	1
knock	1
minute	1
moves	1
new	1
sound	1
ten	1
tock	1
twelve	1
no response	5

COAT	f
wear	23
hat	13
warm	11
jacket	8
sweater	5
boat	4
hanger	4
new	4
button	3
rack	3
cold	2
cap	1
cloth	1
clothing	1
got	1
hang	1
material	1
nice	1
old	1
overcoat	1
person	1
pocket	1
store	1
zipper	1
no response	7

COW	f
milk	49
calf	10
horse	6
animal	5
pig	3
baby	2
farm	2
moo	2
sheep	2
barn	1
big	1
brown	1
cap	1
cook	1
farm	1
fat	1
feed	1
field	1
grass	1
hand	1
how	1
lion	1
ranch	1
see	1
sow	1
no response	3

ELEPHANT	f
animal	12
baby	10
giraffe	8
trunk	7
jungle	6
big	5
horse	5
bear	3
circus	3
fat	3
lion	3
tiger	3
zoo	3
adventure	1
ant	1
cage	1
drums	1
ears	1
excite	1
fin	1
giant	1
great	1
heavy	1
hippototamus	1
horn	1
hunt	1
kangaroo	1
large	1
monkey	1
mouth	1
parade	1
peanuts	1
pet	1
stand	1
strong	1
tail	1
trumpet	1
tusk	1
no response	4

FLOWER	f
plant	14
pot	11
garden	7
smell	6
grow(s)	5
pretty	5
rose(s)	5
daisy	3
tree	3
bloom	2
dirt	2
rain	2
seeds	2
sun(ny)	2
bed	2
tulip	2
anniversary	1
beautiful	1
bees	1
bowl	1
box	1
bright	1
cake	1
died	1
door	1
fruit	1
ground	1
insects	1
had	1
keep	1
mother	1
nice	1
real	1
roots	1
show	1
shower	1
spring	1
stem	1
water	1
no response	4

FORK	f
eat	30
spoon	26
knife	23
bent	1
cork	1
food	1
foot	1
fowl	1
handle	1
help	1
metal	1
one	1
ouch	1
peck	1
rope	1
silverware	1
sharp	1
use	1
no response	6

HAND	f
finger	22
arm	12
feet	4
work	4
band	3
glove	3
man	3
wash	3
body	2
handle	2
hat	2
palm	2
pencil	2
use	2
write	2
broke	1
candy	1
carry	1
cut	1
face	1
feel	1
fist	1
friend	1
good	1
grab	1
ham	1
handing	1
head	1
hold	1
knuckles	1
leg	1
plane	1
pig	1
skin	1
shake	1
slap	1
small	1
smooth	1
thumb	1
towel	1
wiggle	1
no response	6

HORSE	f	KNIFE	f	MAN	f
ride	27	fork	25	woman	23
saddle	8	cut	16	boy	8
pony	8	sharp	8	father	7
animal	5	blade	5	lady	6
baby	4	gun	3	men	5
cow	4	jack(knife)	3	hat	3
donkey	4	spoon	3	work	3
hay	4	butter	2	big	2
barn	3	butterknife	2	can	2
house	3	case	2	girl	2
stable	3	kill	2	hand	2
colt	2	silverware	2	person	2
big	1	butcher	1	am	1
boy	1	cake	1	any	1
farm	1	carve	1	batman	1
gallop	1	cup	1	dad	1
hair	1	equipment	1	daddy	1
head	1	fife	1	feet	1
met	1	fight	1	finger	1
morse	1	fine	1	gentlemen	1
mouse	1	hamburger	1	grow	1
mule	1	hand	1	grown-up	1
noise	1	holder	1	house	1
play	1	holster	1	humanbeing	1
race	1	man	1	kids	1
red	1	meat	1	manhole	1
shoe	1	pocket	1	man's	1
strong	1	point	1	mrs.	1
tail	1	silver	1	mother	1
toy	1	stab	1	nice	1
wagon	1	sword	1	parents	1
yard	1	use	1	postman	1
no response	5	no response	7	sad	1
				store	1
				strong	1
				son	1
				suit	1
				talk	1
				tau	1
				no response	8

MILK	f
drink	27
cow	24
glass	8
bottle	6
man	6
water	5
cat	2
cocoa	2
cake	1
calf	1
cereal	1
chocolate	1
cup	1
farm	1
good	1
liquid	1
milkman	1
trucks	1
white	1
no response	9

MONEY	f
spend(ing)	20
dollars	14
monkey	5
bank	4
pocket	4
wallet	4
buy	3
gold	3
cash	2
change	2
dough	2
honey	2
penny	2
pay	2
bag	1
candy	1
car	1
cheer	1
clothes	1
cents	1
food	1
got	1
kind	1
lots	1
many	1
metal	1
nickel	1
paper	1
people	1
pocketbook	1
purse	1
play	1
quarter	1
rich	1
silver	1
some	1
store	1
twenty-five cents	1
no response	6

MOTHER	f
father	56
mom	7
grand(mother)	3
child	2
lady	2
love	2
nice	2
parent(s)	2
woman	2
baby	1
children	1
dad	1
family	1
friend	1
good	1
help	1
home	1
kind	1
men	1
mouse	1
my	1
nature	1
pretty	1
wife	1
works	1
no response	6

TOY	f
play	45
boy	8
car	6
box	4
gun	4
boat(s)	3
games	3
ball	2
top	2
baby	1
bike	1
broke	1
candy	1
children	1
drums	1
duck	1
house	1
my	1
paper	1
plane	1
present	1
radio	1
train	1
truck	1
no response	8

TRAIN	f
tracks	25
ride(s)	18
car	11
go	5
caboose	3
fast	3
engineer	2
plane	2
run(s)	2
animals	1
big	1
bus	1
carry	1
"choochoo"	1
chug	1
city	1
dog	1
engine	1
electric	1
hay	1
horn	1
house	1
locomotive	1
man	1
passengers	1
places	1
rails	1
set	1
toy	1
tractor	1
wheels	1
work	1
no response	6

TREE	f
leaves	16
apple(s)	9
house	7
climb	6
branch(es)	5
leaf	5
plant	5
flower	4
green	4
birds	3
trunk	3
bee	2
big	2
grass	2
grow(s)	2
nest	2
bark	1
brown	1
breeze	1
eat	1
falls	1
grounds	1
insects	1
knee	1
limb	1
mouse	1
nature	1
play	1
pretty	1
seed	1
stump	1
top	1
wood	1
no response	6

PICTURES	f
frame	13
look	11
paint(ing)	10
camera	8
hang(ing)	5
pretty	5
draw(ing)	4
people	4
color	3
wall	3
book(s)	2
develop	2
man	2
movie(s)	2
nice	2
paper	2
show	2
art	1
bear	1
film	1
gloves	1
good	1
got	1
make	1
person	1
school	1
see	1
snap	1
"tooken"	1
t.v.	1
no response	7

SNOW	f
rain	11
cold	9
ball	8
ice	7
winter	7
snowball	6
white	5
play	5
man	4
shovel	4
sled	3
blow	2
fall	2
flake(s)	2
grass	2
ground	2
outside	2
summer	2
weather	2
blizzard	1
boy	1
clouds	1
hard	1
melt	1
out	1
sleigh	1
snowman	1
sun	1
throw	1
water	1
no response	4

SCHOOL	f
learn	24
work	17
room	6
boy(s)	4
building	4
house	4
children	4
church	3
teacher	3
bus	2
arithmetic	1
big	1
build	1
class	1
college	1
door	1
fire	1
good	1
help	1
home	1
in	1
junkyard	1
like	1
new	1
office	1
play	1
place	1
pool	1
spool	1
spoon	1
toy	1
yard	1
no response	7

WATER	f
drink	34
swim(ming)	7
glass	6
milk	6
boat	3
river	3
sea	3
blue	2
fountain	2
ice	2
koolaid	2
liquid	2
well	2
wet	2
bath	1
boy	1
door	1
faucet	1
fish	1
good	1
lake	1
lot(of)	1
man	1
melon	1
mud	1
ocean	1
pipe	1
pitcher	1
plant	1
pop	1
pool	1
snow	1
tank	1
tower	1
no response	4